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THE SECRETARY OF DEFENSE  
WASHINGTON  
March 1, 1960

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Dear Mr. President:

*John K. Hartwick* 10/7/75  
REVIEWED BY DATE

Progress on the ICBM and IRBM programs during October, November, and December 1959 is reviewed in the attached summary. This is the first three-month report issued on the newly established calendar quarterly basis.

The reliability and accuracy of the ATLAS missile was demonstrated by eight consecutive successful flight tests during the last quarter of 1959. One ATLAS missile has been maintained operationally ready by the Strategic Air Command at Vandenberg Air Force Base since approximately mid-October. The steel strike caused some delays in the operational dates of ATLAS squadrons. *DS*

The TITAN flight test program was plagued with random accidents that were attributed to personnel and procedural errors. Other portions of the program continued satisfactorily. Three flight tests in February have shown firm promise that predicted missile performance can be attained. The first of these on 2 February was completely successful. Another on 5 February disintegrated at 55 seconds because of a minor airframe fairing failure, though all subsystems performed properly until the mishap. On 24 February there was an extremely successful test, in which the data capsule was recovered in the intended impact area, at a range of 4330 nautical miles.

Progress in the MINUTEMAN program was satisfactory.

The THOR flight test program was completed with all program objectives accomplished. Three THOR squadrons have been turned over to the Royal Air Force and the fourth will be turned over in May.

The JUPITER missile flight test program also was completed with a successful flight test on 4 February. Deployment of the JUPITER Weapon System to Italy began during the last quarter of 1959. The United States-Turkey government-to-government agreement for deployment of the JUPITER Weapon System to Turkey was signed on 28 October 1959.

In the POLARIS program, since 31 December 1959, six flight tests were conducted, four of which were fully guided. All flights were successful and have served to demonstrate a high degree of reliability and accuracy for this missile system. The outlook for the POLARIS Fleet Ballistic Missile Weapon is that the presently planned deployment schedule will be achieved.

With great respect, I am

Faithfully yours,

*James H. Douglas*

Deputy

Attachments (1)

The President

The White House

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Upon removal of attachments  
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Authority LNC 76-51-#U32092  
By *DS* NLE Date *10/7/75*

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SUMMARY

ATLAS (ICBM) PROGRAM

The eight consecutive successful ATLAS R&D flights during the last quarter of 1959 provided confidence that the operational missile will exceed previously expected performance requirements.

A thirteen squadron ATLAS operational force was approved (13 January 1960).

An ATLAS missile is being maintained in a state of operational readiness at Complex 576A of Vandenberg Air Force Base.

The captive test program at the Missile Static Test Site and Sycamore Canyon proceeded satisfactorily.

The component development program progressed satisfactorily.

The steel strike caused considerable delays in the operational dates of ATLAS squadrons.

ATLAS missile and support equipment production has been adequate to meet program requirements.

TITAN (ICBM) PROGRAM



A series of personnel and procedural errors has temporarily plagued the TITAN flight test program: a Lot B missile was damaged during prelaunch liquid oxygen loading in November, and a Lot C missile was destroyed in December when a faulty relay triggered the command destruct system at liftoff. It is significant that neither accident could be attributed to design of the missile or its operational subsystems. The time lost in the flight test program will be regained and the TITAN brought to operational readiness on schedule.

The captive test program progressed very well during this quarter.

The component development program continues to show very satisfactory results:

a. Structural testing of the Lot G configuration missile has been successfully concluded.

b. Development of the radio-inertial guidance subsystem is on schedule.

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c. Development progress on improved TITAN engines permitted the meeting of missile production requirements.

d. Design and engineering development of the Series IV re-entry vehicle is on schedule.

e. The Atomic Energy Commission has formally indicated that the Mark 38 warhead will be available to meet TITAN operational requirements.

Missile production is on schedule.

A fourteen squadron TITAN operational force was approved (13 January 1960).

Seven to ten mile separation distances for the 1 X 9 configured squadrons have been approved.

Although major progress was realized in construction of TITAN facilities, the extended steel strike caused serious delays at Vandenberg and Lowry Air Force Bases.

#### MINUTEMAN (ICBM) PROGRAM



Four full-scale, full-thrust, short-duration MINUTEMAN silo test missiles were fired during the last quarter of 1959. Each test was extremely successful in providing the desired data.

Indications are that the simple silo (without deluge system) will probably be adequate for the MINUTEMAN Weapon System.

The major component development effort was directed toward engine cases, nozzles and nozzle inserts that would withstand the intense heat and pressure generated in a solid propellant design rocket engine.

A very successful demonstration of the guidance stable platform was conducted.

Good progress was made in design of a re-entry vehicle capable of accepting either the XW-56 warhead or the more advanced, higher yield XW-56X1 (Fife 1) warhead.

The silo launcher development program progressed to the point that the basic geometry of the launcher was tentatively defined.

Malmstrom Air Force Base, Montana, has been selected as support base for the initial hardened and dispersed MINUTEMAN force.

A tentative ratio of 150 missiles per support base has been established, subject to change with experience.

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Hill Air Force Base, Utah, was selected as the support base for the initial mobile MINUTEMAN force.

The MINUTEMAN Weapon System is progressing essentially on the established schedule. Problems are being eliminated, components improved, and support equipment developed at a satisfactory rate.

The established flight test dates should be met if no unforeseen problems arise.

#### THOR (IRBM #1) PROGRAM

Fourteen THOR missiles were launched during this quarter, including R&D, training, and special mission flights.

Three flights are scheduled for early 1960 to test the MB-3, Block II, propulsion system suitability for future space application.

A total of 79 THORS have been launched; of these 54 were completely successful, 21 partially successful, and 4 were failures. The flight test program has ended with program objectives being accomplished. The THOR is considered to be a reliable and accurate weapon system.

The captive test program has been concluded and the facilities are being turned over to the San Bernardino Air Materiel Area for in-service engineering use.

The THOR operational force was limited to four squadrons in late 1959. Three of these squadrons were turned over to the Royal Air Force, and the fourth is scheduled to be turned over in May 1960.

#### JUPITER (IRBM #2) PROGRAM

Five JUPITER R&D missiles were successfully flight tested between 1 October and 31 December 1959. Through 31 December 1959 there had been a total of 27 JUPITER R&D firings with 20 being considered successful, five being considered partially successful, and two being considered failures. The R&D flight test program will be completed with the firing of Missile 30 on 4 February 1960. If the firing is successful on this date, the completion of the JUPITER R&D firing schedule will occur three months and 25 days ahead of the date scheduled for completion of the original JUPITER R&D firing schedule established 23 February 1956.

The significant event in the JUPITER program for the quarter was the beginning of deployment of the JUPITER Weapon System to Italy.

The JUPITER deployment efforts have incurred a slight delay in schedule because of the lateness in signing construction contracts with

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Italian firms for rehabilitating existing facilities and constructing launch sites. The work is progressing but the installation and check-out team may not be able to get to operational sites on schedule because the Italian contractors will not meet Beneficial Occupancy Dates.

The United States/Turkey Government-to-Government Agreement for deployment of the JUPITER Weapon System to Turkey was signed on 28 October 1959. Technical agreements are under negotiation at present. The unclassified nickname, "IBRAHIM TWO", has been assigned this program.

POARIS (FLEET BALLISTIC MISSILE) PROGRAM

Forty-five flight tests have been conducted (to 31 December 1959) in the POARIS missile test program. Twenty-three tests were of the tactical missile configuration and only one of these was unsuccessful. Six of the second series of tactical missile configuration vehicles were launched during this quarter, two of which were successful, with their re-entry bodies returning into the earth's atmosphere after flight according to programmed trajectories and with flight ranges of 924 and 918 nautical miles respectively. Four were partially successful in that one or more primary objectives were met. The flight tests develop flight environmental data for subsystem development. These tests were about eighty percent effective in generating and transmitting the desired data.

Current basic operational planning is directed toward attainment, on schedule, of the planned normal deployment dates for the nine submarines presently authorized. (Approval was given on 13 January 1960 for a twelve Fleet Ballistic Missile submarine program and for the procurement of the long lead time items for three additional Fleet Ballistic Missile submarines). The planned normal deployment schedule is:

SSBN 598	USS GEORGE WASHINGTON	October	1960
SSBN 599	USS PATRICK HENRY	December	1960
SSBN 600	USS THEODORE ROOSEVELT	May	1961
SSBN 601	USS ROBERT E. LEE	June	1961
SSBN 602	USS ABRAHAM LINCOLN	October	1961
SSBN 608	USS ETHAN ALLEN	March	1962
SSBN 609	USS SAM HOUSTON	August	1962
SSBN 610	USS THOMAS A. EDISON	October	1962
SSBN 611	USS JOHN MARSHALL	December	1962

The outlook for the Fleet Ballistic Missile System is that the above deployment schedule will be achieved. In the event of a national emergency, the normal deployment dates could be advanced by about three months.



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